

Vol. 29, No. 41

NEWSLINE STAFF WRITER

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LAB COMMUNITY NEWS

Weekly Calendar

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Saturday
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There will be a **scheduled power outage** today from 7 a.m. to 3 p.m. Bldg. 431 will be affected. Air conditioning, heating and elevator also will be affected. For more information, contact Mark Cardoza, 3-0490.

...

The annual downtown **Livermore Art-Walk** will be from 11 a.m. to 5 pm. today. Downtown Livermore will be an art district with 150 artists from the Tri-Valley area exhibiting their works in 51 downtown Livermore businesses. Begin your tour of Art-Walk 2004 at Forester's Hall, corner of 2nd and J streets, for a preview exhibit of each artist's work. Tour maps will be available at many downtown businesses. ArtWalk 2004 is produced by the Tri-Valley Artists Guild.

Sunday
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A great **big western celebration** will be held today at 3 p.m. at Towne Center Books. Ann Parker, author of "Silver Lies;" Ginger

Wadsworth, author of the Western Writers of Spur Award-winning "Words West: Voices of Young Pioneers;" Pat Decker Nipper, author of "Love on the Lewis and Clark Trail;" and Donna Gholson Cook, author of "Gholson Road, Revolutionaries and Texas Rangers," will be on hand to discuss their books. They will be serenaded by fiddler Bob Palasek. He will set the mood with music ranging from Appalachian ballads to western fiddle music.



Registration for the Pleasanton Playhouse coming season of **Broadway Chorus** will be available at 5:30 p.m. on Sunday, Oct.

24. The Pleasanton Playhouse is at 1048 Serpentine Lane, Suite 303, Pleasanton. No auditions are required to join the chorus, just a desire to sing and have a good time. The upcoming winter concert will be presented in late February.

...

Del Valle FineArts presents **violinist Kai Gleusteen and pianist Catherine Ordronneau**, performing at the First Presbyterian Church in Livermore at 8 p.m., Oct. 30. The duo will perform works of Dvorak, Schumann, Richard Strauss and Joaquin Nin. Tickets are \$15 for adults, \$13 for college students and seniors older than 62, and are free for students through high school. For more information, visit www.delvallefinearts.org, or call 447-2752.

...

The next deadline for **Academic Plan Requests** is Nov. 1. The Employee and Organization Development Department is continuing to process requests for funding of degree programs on a quarterly basis. Review and approvals are done quarterly, rather than monthly, by the Student Policy Committee. FY05 deadlines for submission of Graduate and Undergraduate Academic Plans are as follows: Feb. 1, May 1, Aug. 1 and Nov. 1. All requests should be sent to the Education Office, L-728.

Saving face



Ted Michels sits in a makeshift dunking booth during the Computation Directorate's annual picnic. This year's theme was Mardi Gras, as indicated by the beads around Michel's neck and the mask he dons of Dona Crawford, Computation's associate director.

PHOTOS BY JACQUELINE MCBRIDE/NEWSLINE

IN MEMORIAM

Henry Sinclair Silva

Henry Sinclair Silva, a 66-year Tracy resident, died Oct. 8. He was 80.

Born March 5, 1924, in San Jose, he graduated from Tracy High School in 1941. He served in the U.S. Army's Third Infantry Division as a military policeman. He was a member of the American Legion, Post 172, in Tracy.

Silva worked at the Laboratory for 41 years, 31 years as a police officer before retiring as a sergeant. He also worked for 10 years as a security escort officer. He performed security for President John F. Kennedy in 1962 when Kennedy met with Edward Teller in Berkeley.

Silva was a member of the IPFES of Tracy and the Italian Catholic Federation of Tracy. He was a loving husband, father, grandfather and friend.

He is survived by his wife of 55 years, Joyce L. Silva; his daughter Lynne Silva of Clovis; his sons, Glenn Silva of Tracy and Kenric Silva of Novato; his daughter-in-law, Felicia Silva of Novato; his twin grandsons, Kenneth and Anthony Silva of Novato; his sister, Inez Hoffman of Sacramento; his brother-in-law, Oswald Hoffman of Sacramento; and his niece Cheryl White of Stockton.

His parents, Henry and Marrianna Silva; his sisters, Mary and Helen Silva; and his brother, Richard Silva, preceded him in death.

Services and burial have been held.

Contributions may be made to the American Heart Association, 1212 W. Robinhood Drive, No. 5D, Stockton, 95207.

Conrad "Andy" Anderson

Conrad "Andy" Anderson died Sept. 28 in Pleasanton. He was 84.

Anderson was born on April 22, 1920, in Minnesota and moved to Livermore 39 years ago.

He was a service engineer associate and coordinator at the Laboratory for 35 years before retiring. He worked on many Lab weapon projects for A and B divisions and R program. He also was an Elder at Our Savior's Lutheran Church.

Anderson was a decorated Army veteran and served in the 735th Tank Corps during World War II. He received the Purple Heart and Bronze Star.

He is survived by his wife of 51 years, Florence; sons, Jerry Anderson of Livermore and Jim Johnson of Livermore; four grandchildren and one great-grandchild. He was the last of 12 brothers and sisters.

Services and burial have been held.

Newsline

Newsline is published weekly by the Internal Communications Department, Public Affairs Office, Lawrence Livermore National Laboratory (LLNL), for Laboratory employees and retirees.

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Web site: <http://www.llnl.gov/PAO/>

AROUND THE LAB



Emergency evacuation drill set for week of Nov. 8

During the week of Nov. 8, the Emergency Management Division will conduct a site-wide evacuation (self-help) drill. The drill is designed to ensure employees at both the Livermore site and Site 300 demonstrate knowledge of their local evacuation and muster procedures.

The drill will only consist of facility evacuation, muster and reporting. There will be no facility sweeps and no mock injured to locate or treat. ARES will deploy site-wide for communications assistance. Reporting will occur through the established zone system to the Emergency Operations Center (EOC) utilizing phones lines (if available) or



Amateur Radio Emergency Services (ARES).

This drill is one of roughly a dozen drills and exercises that will be conducted this fiscal year, but is the only actual "Laboratory-wide" activity. Others will involve specific areas or facilities, and several will be tabletop format only, thus invisible to the majority of Lab employees. Drills and exercises are designed to ensure the safety of employees, test the emergency response capabilities at LLNL and comply with various regulatory requirements.

Limited area facilities with alarmed doors that would be crashed out in an emergency situation should talk with their security rep-

resentative to obtain information on monitoring and re-sealing doors crashed during the drill. The Safeguards and Security Department must receive Security Certification forms and sealer requests at least one week prior to the drill date by Oct. 29.

Employees should contact their directorate self-help coordinators for local information on evacuation procedures and assembly points. General information on LLNL emergency response procedures can be found in the Web-based course, EM-0001W; for specific assembly point guidance, see July 10, 2002 Lessons Learned: Assembly Point Procedures. For further information, contact Sue Broadway, LLNL Self-Help Coordinator, at 4-3759.

Fire Prevention Month reminders seek to smoke out workplace safety hazards

Editor's note: October is National Fire Prevention Month.

The number of fires caused by lighted tobacco products — almost always cigarettes — increased by a stunning 19 percent in the most recent years studied according to research by the National Fire Protection Association (NFPA).

Cigarettes are the leading cause of fatal fire in the United States. Smoking materials (a category that encompasses only lighted tobacco products, not matches and lighters) led to one out of four fire deaths in 1999, even more than any other cause of fire.

NFPA's statistical analysis sheds light on how cigarettes lead to fatal fires. Contrary the popular image, most victims of smoking-material fires did not fall asleep smoking. Many are not even smokers. Rather, these fires typically

started when someone abandoned or improperly disposed of smoking materials.

In 1999, smoking-material fires increased 19 percent over the previous year to 167,700, resulting in 807 civilian deaths, 2,193 civilian injuries, and \$559.1 million in direct property damage.

While at work

LLNL has a smoke free policy — no smoking is permitted in any Laboratory building or in taxis.

- Observe "No Smoking" signs posted in areas where smoking could be potentially hazardous.

- Dispose of smoking materials properly — many buildings have cigarette receptacles (see right) located outside for

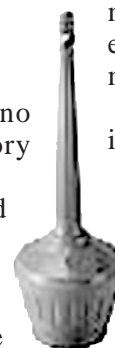
use by smokers.

Many of these receptacles are made of plastic and could burn. They should be located where they will not cause a fire in the area around them should the smoldering cigarettes ignite. These types of receptacles contain a metal bucket within the unit to contain discarded cigarettes. If the metal bucket is full, or missing, stop using this receptacle.

- Never dispose of cigarettes without making sure the cigarette is properly extinguished.

- Check cigarette receptacles periodically. When full, notify the facility custodial staff to properly dispose of them.

For more safety tips on the home front, check the National Fire Protection Association Website: <http://www.nfpa.org/catalog/home/index.asp>



Online catalogs offer efficient, cost-saving shopping options

Editor's note: This is another in a series of articles about the Lab's upgraded electronic ordering system.

The Electronic Ordering System (EOS) offers 11 on-line catalogs that contain more than one million items. Catalogs allow shopping from both national and local suppliers with whom the Laboratory does millions of dollars of business each year.

VWR's catalog includes chemicals and lab supplies. Electronic components may be purchased from the Allied Electronics and Newark InOne catalogs. Buckles-Smith's catalog covers electrical supplies and Cal Steam's catalog offers plumbing supplies, both used extensively by Plant Engineering to maintain the Laboratory's facilities and infrastructure.

Tools and industrial supplies may be found in the Grainger catalog, hydraulic fittings are in the Oakland Valve catalog, janitorial suppliers are available from the Cole Supply catalog and Laboratory inventory items are available from the LLNL Stores Stock catalog. And, of course, office supplies are in T.H.E. Office City catalog.

But, how does a technical release representative (TRR) find that one part the scientist in the program must have? Well, "Google®" it, naturally. While EOS does not actually use the Google search engine, EOS does feature a search engine that offers several techniques to help TRRs find just what they want. EOS Web pages include a box where a TRR can type a

product name or a part number and perform a simple search of all catalogs.

In addition, the EOS offers an advanced search feature, allowing TRRs to drill down to find a part by product category, manufacturer, or supplier, and a "favorites" bookmark feature similar to those used by Internet Explorer and Netscape.

The P&M Department's plan to migrate all non-catalog UniCard orders to the EOS in late October remains on schedule.

Contact P&M Customer Support at 3-3448 or pcs@llnl.gov for answers to questions about using EOS. For more complete information and to see previous articles, go to <http://www-r.llnl.gov/pm/lincs/news/>.



BROOKS

Continued from page 1

Executive Officer Ron Cochran, Associate Director for Defense and Nuclear Technologies Bruce Goodwin and other members of LLNL senior management.

During his opening remarks before the group, Brooks positioned his visit to Livermore as part of a complex-wide tour of NNSA security facilities. But he specifically assured his audience that, "...Livermore was not one of the places that got me on the plane."

Immediately following the strategy ses-

sion, Brooks and his party embarked on a tour of the SuperBlock led by DNT's Associate Program Leader for the Safeguards and Security Organization Joe Sefcik.

Next on the agenda was a Protective Force operations and training demonstration conducted in Bldg. 212. In three separate exercises the Special Response Team demonstrated their skills and prowess in neutralizing an armed adversarial threat, retaking facilities and operating without light using night-vision equipment.

Accompanying Brooks on his visit were William (Bill) Desmond Jr., NNSA acting asso-

ciate administrator for Defense Nuclear Security; Capt. Douglas Fremont, USN, NNSA executive staff director; Cheryl Stone, NNSA deputy associate administrator for Defense Nuclear Security; and Terry Owens, director, Safeguards and Security, University of California/Office of the President.

After the visit Leary concluded that, "This was a very productive day for us. We had Ambassador Brooks' time, interest and undivided attention. The agenda was Lab security exclusively. And we were able to present to him a very precise picture of where we are today, as well as the vision of where we need to go tomorrow."

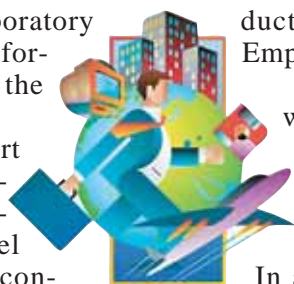


NEWS YOU CAN USE

Travel Services takes over foreign travel approval process

Starting Monday, Oct. 18, Laboratory Travel Services will take over the foreign travel approval process from the Personnel Security Department.

The transition is part of an effort to streamline and improve the foreign travel approval process. Pre-travel briefings and post-travel debriefings will continue to be con-



ducted by the Security Awareness for Employees, or SAFE, program.

Travel Services will assist employees with all aspects of obtaining approvals for foreign travel for Laboratory business, including ensuring that requests are complete and comply with Department of Energy requirements.

In addition to offering basic guidance on

the foreign travel process, Travel Services will be able to provide employees with updates on the foreign travel approvals and assist with reimbursements after a trip.

A new Foreign Travel Hotline (4-INTL or 4-4685) will be in place to assist employees with questions regarding foreign travel approvals, foreign policy and foreign travel reimbursements.

Technical Meeting Calendar

Friday
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ENGINEERING /CENTER FOR COMPUTATIONAL ENGINEERING

"Regional Wind Field Classification Employing Cluster Analysis

and Principal Component Analysis," by Lee Glascoe, Ron Glaser and Gwen Loosmore. 10 a.m., Bldg. 235, room 1090 (Gold Room). Contact: Ann Tyler, tyler8@llnl.gov, to obtain the abstract.

INSTITUTE FOR GEOPHYSICS & PLANETARY PHYSICS

"The Youngest Neutron Stars," by David Hefland, Columbia University. Noon, Bldg. 319, room 205. All attendees need to be badged. Contact: Wil van Breugel, 2-7195, or Rachael Mills, 2-6333.

INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH

"Performance Prediction and Optimization Using the SDSC PMaC Framework," by Elizabeth Simon, San Diego Supercomputer Center. 10 a.m., Bldg. 451, room 1025 (property protection area). Contact: John May (CASC), 3-8102, or Leslie Bills, 3-8927.

Monday
18

ENGINEERING/CENTER FOR NONDESTRUCTIVE CHARACTERIZATION

"MFP Tomography," by Alexandra Tolstoy, ATolstoy

Sciences. 1:30 p.m., Bldg. 155 auditorium. Contact: Ann Tyler or Lori Goerz, 2-4380.

NEW TECHNOLOGIES ENGINEERING DIVISION (NTED) AND DEFENSE TECHNOLOGIES ENGINEERING DIVISION

"A Metrology-based Uncertainty Analysis Approach to V & V of Computer Models of High-consequence Engineering Systems," by Jeffrey T. Fong, Mathematical & Computational Sciences Division, National Institute of Standards & Technology. 9:30 a.m., Bldg. 235, Gold Room. Unclassified talk in red area. Contact: J.C. Chen, 2-0833, or Roger Logan, 3-4872.

CHEMICAL BIOLOGY & NUCLEAR SCIENCE/BIOSECURITY & NANOSCIENCES LABORATORY

"Nanoscale Optical Spectroscopy and Detection," by Lucas Novotny, Institute of Optics, University of Rochester. 2 p.m., Bldg. 151, room 1209 Stevenson Room. Foreign nationals may attend if approved plan is on file, which includes Bldg. 151. Contact: Chad Talley, 4-4763, Thomas Huser, 3-6952, or Katie Thomas, 2-7903.

Tuesday
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ASCI INSTITUTE FOR TERASCALE SIMULATION

"Projective Integration Methods for Multi-Scale Problems," by C.W. Gear, president emeritus, NEC

Research Institute and professor emeritus, University of Illinois at Urbana-Champaign. 2:30 p.m., Bldg. 543 auditorium (uncleared area). Contact: Jim McGraw, 2-0541, or Char Paulo, 3-3730.

Wednesday
20

INTEGRATED COMPUTING & COMMUNICATIONS DEPARTMENT /MACINTOSH TECHNICAL SEMINAR SERIES

"System Administration with Apple Remote Desktop 2," by Michael Lopp, senior engineering manager for ARD. ARD is a powerful desktop management solution for Mac OS X computers, providing the ability to distribute software, remotely control and configure systems, offer real-time online help to end users, and create detailed software and hardware reports. ARD 2 delivers more than 50 new features including VNC-compatible screen sharing, remote shell scripts, task lists, and remote boot disk selection. 10:30 a.m., Bldg. 543 auditorium. Contact: Duane Straub, 2-9774, or straub1@llnl.gov.

Thursday
21

CHEMISTRY & MATERIALS SCIENCE SPECIAL SEMINAR

"Electronic Structure of Actinides at the Mott Boundary: A Dynamical Mean Field Theory Perspective,"

by Gabriel Kotliar, Physics Department and Center for Materials Theory, Rutgers University. 10:30 a.m., Bldg. 235, Gold Room (room 1090). Foreign nationals may attend if approved security plan is on file, which includes Bldg. 235. Contact: Michael Fluss, 3-6665, or Kathleen Moody, 3-5948.

MECHANICAL ENGINEERING

"Welded Assemblies," by Ed Dalder, Jim Oldani and Bob Murray. 10 a.m.-noon, Bldg. 481 auditorium (red area). Contact: Bob Murray, 2-0308.

INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH

"LLNL Project Profile," by Darrel Whitney, LLNL/CAR/CADSE. 10 a.m., Bldg. 451, room 1025 (property protection area). Contact: Darrel Whitney (CADSE), 3-8056, or Angel Weigel, 2-5654.

INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH

"High-Availability in High-Performance Computing," by Stephen Scott, Oak Ridge National Laboratory. 3 p.m., Bldg. 451, room 1025 (property protection area). Contact: Andy Yoo, (CASC) 2-3721, or Leslie Bills, 3-8927.

BIOLOGY & BIOTECHNOLOGY RESEARCH PROGRAM

"From Infection to Detection via Host-Pathogen Interactions," by Sandy McCutchen-Maloney, BBRP. 10:30 a.m., Bldg. 361 auditorium — Darwin Room. For the complete schedule of seminar speakers, including titles, abstracts and supporting information, visit http://doves.llnl.gov/bbrp_seminars/. Refreshments will be served 10 minutes prior to the seminar. Contact: Alice Yamada, 2-4723, or Nancy Wrigley, 3-6287.

CHEMICAL BIOLOGY & NUCLEAR SCIENCE DIVISION/CHEMISTRY & MATERIALS SCIENCE DIRECTORATE

"Parallel and Combinatorial Assays in Microfluidic Systems," by applicant Hanbin Mao, UC Berkeley. 2 p.m., Bldg. 151, room 1209. Foreign nationals may attend if appropriate security plan is on file, which includes Bldg. 151. Contact: Aleksandr Noy, 4-6203, or Eryn Davis, 2-0475.

Friday
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ENGINEERING/THE CENTER FOR ADVANCED SIGNAL & IMAGING SCIENCES

Talks and abstracts for the two-day "Signal and Imaging Sci-

ences Workshop" on Nov. 18-19 are due today (Oct. 22). Two guest keynote speakers will present at the C.A.S.I.S Workshop — Alan Oppenheim of MIT and Jim McClellan of Georgia Tech. Both are among the world's experts in signal processing, and they will share their work and insights with the group. Sessions will begin at 9 a.m. and will be held in the Bldg. 123 auditorium. There is no cost to attend the workshop. To register, attend or give a presentation, contact Dora Da Rosa, darosa2@llnl.gov, or 2-4797.

INSTITUTE FOR GEOPHYSICS & PLANETARY PHYSICS

"Heavy Elements in the Intergalactic Medium," by Anthony Aguirre, UC Santa Cruz. Noon, Bldg. 319, room 205. All attendees need to be badged. Contact: Wil van Breugel, 2-7195, or Rachael Mills, 2-6333.

The deadline for the next Technical Meeting Calendar is noon, Wednesday.

Send your input to tmc-submit@llnl.gov. For information on electronic mail or the newsgroup llnl.meeting, contact the registrar at registrar@llnl.gov.

NEWS OF NOTE



Abraham names Jerry Paul deputy NNSA administrator

WASHINGTON — Secretary of Energy Spencer Abraham administered the oath of office to Jerry Paul this week to be the principal deputy administrator of the National Nuclear Security Administration (NNSA).

Paul will serve as NNSA's chief operating officer and help NNSA Administrator Linton Brooks direct the nuclear weapons complex. His duties will include an emphasis on managing the offices and officials at NNSA's sites, including Lawrence Liv-

ermore, Los Alamos and Sandia laboratories.

Paul is an attorney and holds degrees in both marine and nuclear engineering. He served a pair of two-year terms in the Florida State House of Representatives.

"I am pleased Jerry has agreed to serve as principal deputy administrator of NNSA," Abraham said. "His expertise in nuclear, legislative and legal issues will prove to greatly contribute to NNSA and its mission."

Paul holds a law degree from Stetson University, a degree in marine engineering from the Merchant Marine Institute in Castine, Mass., and a post-baccalaureate degree in nuclear engineering from the University of Florida. He served in the Florida Legislature since 2000. Last session, he served as chairman of both the House subcommittees on Environmental Regulation and Environmental Appropriations.

LANL director announces reorganization

As part of efforts to strengthen laboratory operations and the senior management team, Los Alamos National Laboratory Director Pete Nanos announced Tuesday a reorganization of his senior management team and the Laboratory's Operations Directorate. Effective Wednesday, the Operations Directorate split into two directorates that provide enhanced services and functions to the Laboratory.

The newly formed directorates assemble expertise into a Technical Services (TS) Directorate and a Security and Facility Operations (SFO) Directorate. The Technical Services Directorate provides services in environmental protection and compliance; project management; performance surety; facility engineering and standards; health, safety and radiation protection; resumption and operational efficiency; and counterintelligence and internal security.

The Security and Facility Operations Directorate provides the expertise to support traditional Laboratory operations such as nuclear and waste operations, security, emergency operations, space management and site planning and facility operations support. No jobs will be lost in the transition. Some divisions and groups will be absorbed into new divisions to fill the needs of the two directorates as details and budgets are still being finalized.

Also effective Wednesday, Don Cobb, associate director for Threat Reduction became the acting deputy laboratory director. Joseph "Cliff" Giles, principal associate director for Threat Reduction, became the acting associate director for Threat Reduction. Scott Gibbs, acting associate director for Operations, became the acting associate director for the Security and Facility Operations Directorate.

LLLWA scholarship deadline extended to October 28

The deadline for applying for a Women's Association (LLLWA) scholarship has been extended to Oct. 28.

The program provides financial support to LLNL employees in pursuit of their education as a means of career and personal advancement. These scholarships are designed for employees who have completed academic work within the last two semesters and are planning to continue their academic career.

Applicants must complete a simple application form and include transcripts; a letter of recommendation from their LLNL supervisor, teacher or educational adviser; and participate in a short, informal interview with members of the Scholarship Committee. The awards will be announced in January 2005.

To receive an application, contact Pat Chance, 2-2807, or Joni Schuld, 2-4168 or go to the Scholarship Program Website <http://www-r.llnl.gov/lllwa/scholarship.html>.

Campaign off and running



FILE PHOTO

This year's Run for HOME on Thursday, Oct. 28, will begin at West Perimeter Drive, just outside parking lot Z-3 near Bldg. 132. Rollerbladers will begin at noon, runners at 12:02 p.m. and walkers will immediately follow runners. At Site 300, the race will begin at noon at the usual 3,000-meter course. Costumes are encouraged, especially in this year's Olympic theme of "Bring HOME the Gold."

Electronic HOME Campaign filing generating hits

The online early donation option for HOME Campaign contributions is proving popular with heavy use in its first week. To make an early donation, visit https://www-ais.llnl.gov/llnl_only/docs/home/welcome.html. Early donation is being offered as a "paperless" alternative that reduces the cost of printing, distributing and processing booklets.

It's also time to think about costumes for the 2004 Run for HOME on Thursday, Oct. 28, which will kick off this year's campaign. The Defense and Nuclear Technologies (DNT) Directorate is sponsoring the run and encourages everyone to wear costumes related to this year's theme: Bring HOME the Gold. DNT will be giving awards for individual and team costumes. The event generates fun and excitement by bringing people to the HOME Fair, where they can learn about some of the nonprofit agencies listed in the HOME Campaign booklet.

This year's Run for HOME will welcome rollerbladers, runners and walkers at the Livermore main site at noon. Rollerbladers will start at noon, followed by runners and then walkers. Runners at Site 300 will begin their 3,000-meter course at noon. All participants will receive free snacks and a T-shirt. More details including a map of the Run for HOME are at <http://www-r.llnl.gov/home2004/run.html>

Look for additional information about the Run for HOME in next week's *Newsline* as well as a special HOME 30th anniversary insert.



CLASSIFIED ADS

See complete classified ad listings at
<https://www-ais.llnl.gov/newsline/ads/>

AUTOMOBILES

1970 - VW Bug custom project. Dual carbs,low-ered, new front end. Needs electrical work but runs great. LOTS of xtra goodies (spare tranny,etc)! \$2300 OBO 925-373-1057

1999 - Jeep Grand Cherokee, Clean inside/out, 2nd Owner, well maintained-Call for info \$11K (Kelly BB) OBO 209-543-9124

2000 - HONDA CIVIC EX \$9,750 Sun roof 66,000 MILES 5-SPEED Fully loaded w/power all Cruise 925-934-0549

1999 - Ford Expedition 4X4, 5.4lV-8. Leather, new tires, XM radio, tow package, deep blue color, running boards, alloy wheels, premium sound. 11,900 / OBO. 925-443-4844

1998 - Jeep Wrangler-Red. 6-cyl, 5spd,118K, hard top, AC, 2.5in. lift w/32in. mud terrain tires. Eagle wheels & Warn bumpers. Exc.cond.\$8,900/OBO 925-216-1040

1992 - Lexus ES300. 130K miles. Needs some work: oil leak, radio and dash light. Kelly Blue Book fair price \$4,300. 925-443-7434

1996 - Gold Toyota Camry LE wagon - Auto, V6, AC, CC, Keyless Entry/Alarm, Lthr., CD, Roof Rack, 3rd Row Foldaway Seat, 96K MI. \$6,900 OBO 209-380-5377

1966 - Chevy El Camino, Black, 427, restored, lots of extras, SHARP! \$9K obo Serious Only - (c) 415-309-0717 (h) 925-516-4151

1998 - Chevy, 1500 Silverado 4X4, 90k miles, 4inch lift, 33inch tires, leather, good condition, well maintained. \$13500.00 OBO 209-815-6962

1997 - BMW-Black 740 iL, 5300 miles Runs Great, very clean, ultimate comfort \$18,500 cell-925-285-8742 925-447-7088

1995 - Ford Windstar LX, 117K, leather, fully loaded, clean, runs great. \$3,650. 925-838-9667

1995 - Honda Odyssey EX, 7 pssgrs. minivan. 140 K mi.Good cond. Power Drs./winds.-air cond., sun roof, and more. \$5600. 925-485-0760

1998 - Toyota SiennaLE 79K miles, excellent condn, alarm system, roof rk, run boards,tow pkg.dual sliding passenger doors,quad seating, \$9,900 925-525-1413

1993 - Red Honda Del Sol, clean, 97.5 miles, well maintained, spoiler, 125hp, hard top stores trunk, 30-36MPG/EPA. Another 100-150K mile-sOK. \$4,595 925-785-4680

AUTOMOBILE ACCESSORIES

PICKUP PARTS - Chrome step bars, Dodge Ram, \$150. Chevy stock tires & wheels, \$250. Tailgate caps, step/fleet side, \$15. Euro taillights \$40. 925-443-2173

VW 70s Engine 1600cc dual port, 3031 Pict carbs, chrome tipped exhaust & heater boxes intact. 800 miles 3 yrs on rebtl from B&H motor-sports. \$750 925-447-6321

4 Kumho Ecsta Tires. 215/50R15. Rated 88H. BRAND NEW! bought tires, sold car before they came in. 925-381-2034

BICYCLES

Peugeot bike renyolds 531 frame and a ton of parts \$75 O.B.O. 925-513-7380

Ten speed Nishiki womens bicycle, 27 inch alloy wheels, 19 inch frame, good condition, \$60 925-443-7752

BOATS

35 HP electric start outboard Evinrude with gas can. Make offer 925-766-8233

Full length wetsuit, size 12, blue and gray, \$20 925-484-4099

1971 Eliminator Jet ski boat. Recently rebuilt 455 olds, roller rockers, mild cam. Great boat.....need to sell. \$1750. 209-368-4286

CAMERAS

Canon EOS 750 QD w/35-80mm EF power zoom, \$100; Canon EOS Rebel Sii w/28-80mm AF, \$125. 925-757-6896

ELECTRONIC EQUIPMENT

Floor standing 4 way speakers made by Accoustic Research, sound great, \$50 for the pair 925-484-4099

Yaesu FT-2600M, 2 meter mobile transceiver, 60w, great cond. \$135.00 209-832-3069

128MB compact flashcard w/ card reader, \$25. Device used with was broken, no longer have need for it. Card works fine! 209-836-3806

1 year old Qualcomm Cell Phone by Kyocera (good for Verizon Wireless)\$25. 925-249-9186

Sony 32inch TV excellent condition \$200 209-599-7569

17inch HP CRT monitor w/speakers, brand new, still in the box. \$60. 925-449-7009

GIVEAWAY

Beautiful Short-hair/Lab male dog 1-1/2 years old, great with kids, needs room to run and a good family, shots current.Free 209-835-1598

Free - Brownish sofa bed and metal table with wood top. Great for grad student lifestyle. Now taking up garage space. You haul from Dublin. 925-361-9254

metal desk good work bench, 2 garbage cans,CD holder,2 mini blinds for windows 70 & 58 inches wide 925-513-7380

Pair of twin bed frames useable as bunk beds, solid wood construction in good condition. One frame has built-in drawers. Mattresses not included. 925-820-4709

Dune Buggy frame FREE - engine and transmis-sion \$250. 925-550-3809

HOUSEHOLD

Modular Office Set. Includes: Computer Desk, Lateral File, Drawer Unit, and Hatch. Solid Oak and Oak Ply. \$3,600 new, asking \$1,500. 925-455-1730

Contemporary living set, sofa, love seat, chair & ottoman, 3 pc. glass tables, excellant condition. \$800/OBO. 925-454-0604

Refrigerator - Whirlpool w/ ice maker, top freez-er, almond, 32in. x 28in. x 66in., works great, \$200/obo 925-784-5850

Crib white, excellent condition \$45.00, dining table chairs, set of four \$40.00, other chairs \$5.00-\$10.00, walker \$5.00 925-447-4841

Gas heater, used to heat a garage or shop, \$50 925-484-4099

200sqft Bruce Maple Hardwood prefinished. 3/4thick x 2-1/4wide Naildown.\$400.I have a sample to show. 209-833-7149

Oak/Leaded Glass China Hutch \$500; Mission Oak/Glass Curio \$350; Oak/Glass Ent Ctr \$750; Birch/White Kitchen Set w/leaf & 4 chairs \$100. Moving! 925-634-8223

Dinette table. Light woodgrain laminate top with solid wood legs. 54 by 36 inches with 12 inch pop-up leaf. Only 6 months old--great condi-tion. \$190. 925-846-3653

Solid Oak Bedroom Furniture. Excellent condi-tion. Armoir w/8 drawers \$150.00, dresser w/9 drawers \$150.00, night stand w/2 drawers \$75.00. 925-447-9647

Six drawer IKEA dresser, 48in.x31in.x15in., blue and maple. x2 \$50/ea. pics available. 925-454-3239

ski boots, roller blades, two man tent, snow boots, 2 racquetball rackets, 6 pc. champagne set, meat slicer, coffee pot, 925-513-7380

Kenmore Freezer - upright, frost free. About 4 years old. Good condition. \$150. 209-740-8193

CRIB-light wood,sleigh style,includes water proof mattress.\$100.00 OBO. Crib bedding and accessories. Noahs Ark theme, complete set. Make offer. 209-833-8306

Entertainment Center wall unit. 60in tall, 54in wide, 15in deep, medium oak finish. Solid unit very good condition. \$59 obo. can deliver. 925-447-9509

Color 21 inch Proscan TV w/remote & matching black shelved TV xtand. All in excellent condi-tion and barely used. Stand alone was \$100. \$150. 925-648-0671

Stainless Steel Amana Electric Smoothtop Range w/convection oven and Amana Radarange Microwave oven. Both in excellent condition. \$600 for the set. 925-855-0456

Dining room table (all glass/rectangle) w/six chairs in excellent condition for \$350, ask for karen 925-525-1422

Collectors of Don Hatfield paintings, Lithograph, signed, 104 of 150, By the Sea, will sacrifice for \$3000.00 925-846-8857

Garage Sale Sun. Oct 17th Baby Items and Household 320 Ruess Rd. Ripon 209-599-8422

Wht-Chse-lounge\$150, BistrowTableblakw-

glass-chairs \$350, SurroundTuner\$100, LgDresserMulti-ColorDrawer-LkNew\$300, longBdrmChOakDresser-LkNew \$150 925-382-4478

Twin oak chest bed with three drawers, in good condition, \$50.00 925-846-4221

Refrigerator.White Frigidaire Elite. Freezer on top,clear shelves,roomy.Great cond. \$200. 209-833-1201

LOST & FOUND

Bolte Sunglasses, Found near NIF site. 2-7343 to claim. 925-455-1730

LOST: Maui Jim Sport black frame w/lenses that are frameless at the bottom, somewhere between B141 and parking lot A4 morning on Oct. 6. 408-690-9272

MISCELLANEOUS

Three dome tents hardly used and in great shape. 3-man \$15, 4-man \$25, 5-man \$35. 925-443-2821

Print Cartridges: HP no. 29 and 49. New, recent, \$10 each 925-935-5004

Dining Room table (seats 6) - Smoke black glass table with 4 matching black lacquer padded chairs \$275 OBO, like new (new \$600) 925-766-8233

OLDSKOOL gokart yamaha chassis with a 5hp honda set up for child parking lot racer.\$800.00 obo call after 6pm 209-574-0939

John Wayne painting with stagecoach, nicely framed, \$50 925-484-4099

200 sqft Bruce Maple Hardwood. 3/4 thick x 2-14 wide. prefinished naildown \$400. Multiple lengths in box. I have a sample at my desk. 209-833-7149

Blue/Cream LaZboy Queen Sleeper Sofa \$150; White Bunk Beds w/matt. \$100; Oak Swivel Bar Stools \$75; 2 Rattan/Brass Bar Stools \$25 Mov-ing! 925-634-8223

Push mower, 5 HP, 3 in one mower w/ bag. Starts on the first pull. Excellent cond. \$75.00 925-516-8339

Very heavy duty welded-steel Christmas tree stand with water container 7 inches in diameter and 6 inches in height. Painted dark green. \$25. 925-846-3653

DRAFTING TABLE-30 x 42 adjustable top & legs, folds flat for storage. Borco cover & May-line ruler. Great for student. \$40.00 OBO. 209-833-8306

Saltenas, a bolivian delicacy. A delicious and juicy pastry with chicken/veg. fillings. 925-484-6430

DVD/CD/MP3 Emerson audio/video system with remote control & two 2-way speakers. Brand new, unopened. Paid \$130. Great Christ-mas gift. \$90. 925-648-0671

Huge multi family GARAGE SALE: October 23-24 8AM-2PM on Broadmoor off of Vasco/Scenic. Appliances, furniture, tools, clothes, household, toys. 925-449-5215

Breast pump. Medela brand. Model, pump in style original. Hardly used! Retail for \$300. Asking \$120. 925-373-6255

6pc QN BRM set w/mattress \$200, glass dining table w/4 chairs \$75, leather couch & recliner \$100, Large oak wall unit \$150..OBO..must sell, Lathrop. 209-858-1206

Graco 6 speed automatic baby swing, EXCEL-LENT condition! Cream/green/yellow checkered pattern. \$30 - Livermore 925-371-1559

JACUZZI- Made by Sensation Spas, 4-6 person, hydrotherapy jets, deep tissue massage seat, immaculate condition. Actual dimension 7ft square. \$3000. 209-836-1665

Two tickets for Universal Studios, two day admission for \$70.00 + one day parking ticket included. Exp. 1/31/05. 925-373-1648

49ers vs Arizona, Carolina, Miami and Wash-ington. Face Value \$260 for 4 in Section 15, row 19. Great View and Dry! 925-606-0321

71 inches Mirrored Goldtone Closet Doors w/track \$50 925-382-4478

VHS Movie Sets, Complete collections - Star Wars \$25, Jurassic Park \$15, Star Trek \$30, James Bond \$40 - great condition,all in original covers. 925-833-9072

Camp Chef triple burner camp stove. comes with wind shield and carry bag. New in box never opened. retails \$249 sell for \$150 firm. 925-516-8339

MOTORCYCLES

GOKART emmick chassis with techumseh

5.5hp parking lot racer for adult or child call after 6pm \$800.00obo 209-574-0939

2003 - Harley Davidson Anniv. FLTRI Roadglide Gunmeatal Blue, Perfect Condition, Low miles, Chrome upgrades. \$18,250 OBO. EXT. 2-2349 pager 05824 Home 209-475-0862

2000 - 883 Sportster 10k miles, excellent condi-tion, lots of upgrades, has been lowered. Thun-derHeader pipes...and more. \$7500 (Black) 209-599-9594

1985 - Honda VT1100C Shadow. Runs great, good condition. Black. \$2,600. 925-456-3010

1999 - FLHTCUI Ultra-Classic Electra Glide, Good Condition needs cosmetic TLC, Mfr Warr thru 08/05 KBB \$15,700 Make Reasonable Offer. 925-634-2798

2002 - XR-50R, exc. condition, My daughter has outgrown it! \$850 209-825-6084

2003 - Honda Reflex w/ ABS in Yellow. Excellent condition, great economy 62mpg, freeway legal 80 mph. Less than 3k miles, asking \$4,000. 209-836-2612

MUSIC INSTRUMENTS

Music program for underprivileged children seeks keyboards for music instruction. Will pay \$25 or accept donations. Call 447-2076.

Baby Grand Piano - Beautiful black Young Chang \$3,500 OBO, good condition (new \$8,600) 925-766-8233

Cymbal boom arm. Yamaha short boom arm with cymbal stacker attachment. Like new! \$45 925-373-6255

PETS & SUPPLIES

I have many, many rescued kittens looking to be adopted. Adoption fee \$75 includes shots,n/s & deworm. 209-833-0607

Aquarium, glass, 95 gal., never used, \$75--- 925-294-9554

Beautiful location next to Morgan Territory Regional Preserve for horse boarding and trail access. Facilities include stalls, round-pen and arena. 925-449-3456

Free to good home. AQHA Buckskin mare. 14 yrs. Good pasture companion. 925-447-6682

RECREATION EQUIPMENT

Nikon spotting scope 20-60X80 with protective cover. Excellent condition. \$350. 925-447-6728

1986 El Dorado Mirada motorhome. 29 feet, sleeps 6, full bath, dinette, microwave, storage. \$10,000. OBO. 925-456-3010

RIDESHARING

Express your commute, call 2-RIDE for more information or visit <http://www-r.llnl.gov/tsmp>.

Pleasant Hill/Walnut Creek - Seats available on luxury van; \$100-\$120 depending on ridership. Arrive LLNL 735AM, Depart 4:30PM. 925-947-6969, ext. 2-4206

El Cerrito - Berkeley Vanpool has openings for full time or casual riders. M-F 7:45 am to 4:30 pm work schedule. 510-524-5769, ext. 3-7995

Modesto - Vanpool space available. 8-4:30 schedule. Pickup near Pelandale & Sisk. Cap-tain chairs & reading lights. \$118/mo. 209-521-9047, ext. 2-5177

San Jose/Fremont - 14 passenger van needs rid-ers. Leaves San Jose/Berryessa 6:40; leaves Fre-mont/Mission 7:00; arrives LLNL 7:30; leaves LLNL 4:30. Very reliable. 408-238-1909, ext. 3-3057

Pleasant Hill/Walnut Creek - 14 passenger Enter-prise luxury vanpool from PH BART. Arrive 7:50am/leave 4:50pm. Additional Concord pickup location possible. -\$130/mo. 925-943-5443, ext. 2-5793

Orinda - Carpool from Lamorinda seeking 4th rider/driver. Lab hours 8am-4:45pm. Meets near St. Stephens and Hghwy 24. No smoking. 925-253-0498, ext. 2-9823

SERVICES

Haircuts for kids. Convenient and time saving- I come to your place. Licensed with 21 years expe-rience. Refs available. 209-836-2137

CHILDCARE <1 mi from LLNL has openings for children ages 0-5. Limited school age slots also available. Great references. Great Care! 925-245-9521

ClutterLess(CL) Self Help Group. Clutter stressing you out? Mondays 7-8:30 PM. Come: Pleasanton Presbyterian, Rm 7, 4300 Mirador Drive, or call 925-443-0766

SHARED HOUSING

Livermore - \$450/mo for med/lrg room in Liver-more. Houseshare with washer and dryer. Female preferred. 925-447-2466

Livermore - *** 2 mi 2 LLNL, mast bdrm, pvt bth, nice, quiet - \$650/mo. 925-443-4231

Livermore - Unfurnished room for rent, available now. \$550.00 rent + \$250.00 deposit. No smkng, pets. 3 miles to LLNL. 925-373-1648

Livermore, room in house near the Laboratory, female only, \$200/month, light housekeeping, run errands for shut-in. 447-2076.

TRUCKS & TRAILERS

1989 - Ford, 3/4 ion 460 CU IN. EFI automatic, long bed, super cab, very clean, 30,200 actual miles \$6,250 obo 925-447-4841

1978 Chevy Pickup for sale. Clean inside and out. 209-577-1787

1993 - Rockwood 28 foot 5th wheel, 13 foot slideout.Very good condition sutible to live in. \$6000 B/O 925-449-4262

1998 - Dodge Dakota standard, 5 speed, AC, dual front air bags, sliding rear window, excellent con-dition, low 55,000 miles, kbb at \$5,795, asking \$5,200/OBO 209-351-0055

1990 - Ford Broncoll, 4x4, E.B.,good condition,runs great. \$3800 or best offer. 209-836-2990

1965 - chevy longbed pick-up good condition \$2000 or b.o. 209-473-2172

1996 - GMC Suburban 1500 SLE, 4X4 - \$9,000 OBO Silver/Black trim, gray interior, ALL power, custom rims, chrome nerf bars. 155K miles. 209-833-3325

1972 - Dodge 3/4 ton, 400 C.I.D., long bed, white with white interior. 94K miles. \$1,000. OBO. 925-456-3010

1971 - Chevy P/U C-10 Long Bed, Rims & Tires, CD Player, 350, 3 Speed Man. Trans. Needs Clutch & minor engine work. \$2000.00 OBO 209-321-0680

1987 - GMC Sierra Classic 2500 ton, \$3000. Pwr windows, locks, CD player, new paint job, new tires, bed tool box. 925-487-4422

2001 - toyota tacoma prunner for sale. Ext.cab with bed liner. cd stereo,sliding rear window. great condition,72k miles,13000 obo. 925-584-6018

VACATION RENTALS

Nice cozy mountain cabin near Arnold. 4 bedr, 2 bath, wood burning stove, fully equipped kitchen. Lots of snow in winter. 925-245-1114

Soooo cute beach cottage in Santa Cruz. 2 bedr, 2 bath, spa, fully equipped kitchen. Near harbor. Sleeps 7-8 925-245-1114

Long Barn, Ca. - Cabin rental just 15 minutes from Pinecrest Lake and Dodge Ridge Ski Resort. Please call for rates. 925-424-4437 ask for Tim 209-824-5727

Truckee - Tahoe Donner - ski cabin group has openings. \$625 per person, unlimited access. Thanksgiving - April 30. Call for additional infor-mation 925-447-0596

Looking for vacation rental on Oahu, Hawaii for week of June 20, 2005. Big enough for 7 people. 209-825-8967

SOUTH LAKE TAHOE - 3Bedroom 2 Bath Chalet, comfortably furnished, all amenities,Enjoy fall col-ors in Tahoe!!Off-Season Rates! RESERVE NOW! 209-599-4644

Pinecrest - (Off Sonora Pass Road), 3 bdrm/2 bath, frpic w/wood, microwave, dishwasher, pool table, large deck and view up No. Fork of Tuolumne, \$195/wknd. 925-449-5513

CAPE COD, MA. New home with MBR/bath, large dormer BR/bath in Wellfleet, MA on the Outer Cape. Two hr drive from Boston Logan Air-port. 925-443-7499

Cold Springs, CA - Sleeps 10-12. 5 min to Pinecrest Lake & Strawberry Snow Park, 20 min to Dodge Ridge and Beardsley Reservoir, and 30 min. to Black Oak Indian Casino. 925-240-1206

WANTED

Beginning Student Flute. 925-682-2358

CHILDCARE FOR 11yr old special needs child in Tracy.Afterschool 3:00-6:00 (School bus drop

RETINA

Continued from page 1

degeneration (the leading cause of blindness in people over 60), retinitis pigmentosa (the leading cause of blindness in people under 50), or those who are legally blind due to the loss of photoreceptor function.

The Laboratory partnered with four other national laboratories, three universities and Second Sight on the project.

Engineers from LLNL's Center for Micro- and Nanotechnology specifically are developing a flexible silicone implant (micro-electrode array) that sits on the surface of the retina. The electrode array can contact delicate retinal tissue without damaging it.

The implantable retinal prosthesis is based on a system that converts a video camera signal into a stimulation pattern that is applied directly to the intra-ocular retinal surface. This is referred to as an epiretinal implant — the device is in contact with the surface of the retina. Visual signals are captured by a small video camera in the eyeglasses of the blind person and processed through a microcomputer worn on a belt.

Although the device will not restore full vision,



GEORGE JOCH, DOE ARGONNE NATIONAL LABORATORY

Energy Secretary Spencer Abraham, center, congratulates the first artificial retinal implant recipient, Harold Churchey, left, on Thursday as Dr. Mark Humayun of USC Doheny Eye Institute looks on during a Cooperative Research and Development Agreement signing ceremony in Chicago.

it is expected to provide enough optical resolution for patients to read and recognize fine shapes.

LLNL's pioneering use of polydimethylsiloxane, or PDMS, allowed the microelectrode array to conform to the curved shape of the retina.

"PDMS has the look and feel of thin plastic food wrap," said Livermore's principal investigator, Courtney Davidson. "Yet it's biocompatible, making it a good candidate material for long-term implants."

photoreceptive cells.

The artificial retina technology was featured Thursday in Chicago at the department's "What's Next Expo," an event designed to showcase the newest, most innovative, cutting-edge scientific and technological advances and encourage young people to pursue careers in math and science.

Second Sight was founded in 1998 to create a retinal prosthesis to provide sight to patients blinded from outer retinal degenerations.

MATTHEWS

Continued from page 1

ing rocket scientists to develop medical devices.

"At first we said, 'are you kidding?' We made no claim to know anything about medicine. But we do know the technology like no one else. So we told them, 'if you can define the problem well enough, we can make something that will work.'"

Matthews and Pat Fitch, then head of Livermore's Engineering Research Division, set up a multidisciplinary Center for Health Care Technologies in the Lab's Biology and Biotechnology Research Program (BBRP) and started hanging out with physicians and medical researchers.

"A doctor at UCSF (the University of California at San Francisco) invited Pat and me to see some surgeries," Matthews said. "We watched him take a gall bladder out of a pig with a minimally invasive procedure, and we were hooked."

One of the new center's first initiatives was to develop technologies to treat strokes. "Doctors, mainly neurologists and neurosurgeons, met with us," Matthews said. "There was no real treatment for stroke, they said — can you help us out?"

In 1995, Livermore invited doctors who treat stroke patients to meet LLNL's engineers, biologists and physical scientists at a "Stroke Summit" at Wente Vineyards. The workshop led to a series of patented devices for diagnosing and treating stroke, and spawned several startup companies using Livermore technology.

Startup companies

In the midst of the 1990s technology boom, other Livermore inventions quickly became prime candidates for commercial development.

"We would invent something," Matthews said, "and a venture capital firm would turn it into a startup company. Or a development phase company, just getting up and running, which had run into a significant technical hurdle, would come to us and ask if we could help them out."

Some examples:

Vysis Inc. of Downers Grove, Ill., licensed LLNL's unique FISH (fluorescence in-situ hybridiza-

tion) technique for detecting DNA abnormalities in chromosomes. The company, since acquired by Abbott Laboratories, is now marketing or developing FISH-based diagnostic kits for breast, bladder, blood and a number of other cancers.

Cepheid, a diagnostics instrumentation company in Sunnyvale, Calif., licensed Livermore's "rapid PCR" (polymerase chain reaction) technique for analyzing DNA and has incorporated it into machines that enable physicians to perform real-time, point-of-care diagnostics from unprepared biological samples. Cepheid's GeneXpert technology also is being used for rapid detection of biothreat agents such as anthrax.

When the dot-com boom went bust and federal funding for medical technologies also tapered off, LLNL's Center for Health Care Technologies disbanded. Undaunted, Matthews established a Medical Technology Program, a partnership involving BBRP, Defense and Nuclear Technologies, Engineering and Lasers. And just last month, Matthews formally launched the Lab's new Center for Biotechnology, Biophysical Sciences and Bioengineering (CBBB), a one-stop shop that lets academic and private researchers partner with scientists in the Lab's BBRP, Physics and Advanced Technologies, Engineering, Chemistry and Materials Science, Computation and Energy and Environment programs to work on emerging medical, bioscience and environmental technologies.

University collaborations

Through the years, the Laboratory has collaborated with universities and medical research centers such as UCSF, SUNY (State University of New York) Buffalo and the Mayo Clinic. LLNL's most extensive collaboration, however, has been with UC Davis.

In 2000, Livermore teamed with the UC Davis Cancer Center to take on cancer, the nation's second leading killer. LLNL's staff of biologists, toxicologists, physicists and engineers joined forces with the cancer center's experts in patient-centered and clinical research, providing a clinical testing ground for Livermore's medical technologies. Matthews, who became the cancer center's associate director of biomedical technology, said the collaboration was a key factor in the center being named a National Cancer Institute-designated cancer center in 2001.

"Cancer biologists have become my heroes," Matthews said. "They know what cancer cells look like and what they do and how they got there."

Well aware of the many potential uses of light and radiant energy, or photonics, in biological and medical research, Matthews next applied for a National Science Foundation (NSF) grant to establish a Center for Biophotonics Science and Technology at UC Davis. The \$40-million, 10-year grant was approved in 2002, and laser expert Matthews, already holding down jobs at both Livermore and UC Davis, was named director of the new center — the only NSF center focused on biophotonics.

"Our task is to apply photonics concepts and technologies to biology and medicine," Matthews said — for example, using optical techniques to speed drug discovery by as much as a hundredfold. The two UC Davis centers also will work together to integrate cancer and biophotonics research.

Among their joint projects is the development of cellular-level precision surgery, which uses hyperspectral (narrow bandwidth) imaging to identify individual cancer cells and employs precision robotics and short-pulse lasers to destroy them, one cell at a time. The technique could eliminate the need for chemotherapy and radiation therapy to destroy "outlying" cancer cells that might be missed by traditional surgery — a possibility Matthews calls the "Holy Grail" of cancer therapy.

Since the terrorist attacks of September 11, Livermore and UC Davis have increasingly focused on technologies to improve homeland security. Both stationary and handheld systems to detect the presence of pathogens that might be released by terrorists, such as anthrax and smallpox, have been developed.

Reflecting on his "second career" as a medical technology developer, Matthews said, "I remember visiting the hospital at SUNY Buffalo, where I saw a woman who had an aneurysm in a cerebral artery. The doctors were trying to get a catheter in to deploy a coil to isolate the aneurysm, but they couldn't — the cerebral arterial system has so many branches — and the woman died."

"I realized that I knew how to build some technology to get that catheter in there," he said. "It was an 'Aha Moment' for me."

Shrike's small size at loggerheads with killer reputation

Through recent ornithological work at Site 300, Environmental Protection Department (EPD) wildlife biologists have discovered an impressive diversity of both resident and migratory avian species. With more than 115 species of birds documented using or residing at Site 300, it's not difficult to find interesting examples of avian ecology and natural history. Yet one species seems to stand out in every flock: the Loggerhead Shrike (*Lanius ludovicianus*).

In recent months, Loggerhead Shrikes have received a significant amount of attention at Site 300 because of their interesting ecology, role in the food Web, site-wide distribution and potential as a sentinel organism for environmental monitoring. This 50-gram wonder is a tenacious predator although it's not considered a raptor (i.e., hawk, eagle or falcon). Rather, the Loggerhead Shrike is a passerine (i.e., song bird, Order *Passeriformes*, Family *Lanidae*) and is best known (and loathed by some) for its habit of impaling prey on thorny bushes and barbed wire. Because of this, the Loggerhead Shrike is known as the "Butcher Bird" in some parts of the country.

Loggerhead Shrikes prefer open grassland savannah habitats of Site 300, areas characterized by open expanses of grasslands with a smattering of suitable nest trees such as junipers (*Juniper californica*) and valley oaks (*Quercus lobata*).

At Site 300, the Loggerhead Shrike is a relatively common year-round resident, found in populated areas such as the General Services Area to the most remote corners of the site. Loggerhead Shrikes build sturdy nests out of small diameter twigs and grass and have clutch sizes between four to six usually between March and July. Loggerhead Shrikes may have more than one clutch and may reuse the same nest from year to year. After breeding is complete and the young have fledged, adults hold separate but adjacent territories until the following breeding season when they reform as a pair and hold a single larger territory. Young



MICHAEL G. VAN HATTEM



STEVE DOLAN

Upper left: Loggerhead Shrikes build sturdy nests out of small-diameter twigs and grass and prefer dense bushes like this juniper (*Juniper californica*) at Site 300. Above: An adult Loggerhead Shrike (*Lanius ludovicianus*). Upper right: An adult Loggerhead Shrike being color banded with plastic leg bands for individual recognition. Lower right: An unlucky Pacific treefrog (*Hyla regilla*) impaled on barbed wire by a Loggerhead Shrike.

are differentiated from adults by juvenile plumage (i.e., wing bars and mottled breast feathers) and adults are monomorphic (i.e., males and females look alike).

EPD wildlife biologists are currently studying the Loggerhead Shrike because they appear to be

an ideal sentinel organism for environmental monitoring, filling a predatory niche and holding small, manageable territories (versus hawks with large territories). Current research focuses on whether the Loggerhead Shrike is bioaccumulating a suite of metals found at Site 300. To address these questions, resident birds are captured and non-lethal techniques such as blood and feather samples are collected and compared to birds at a control site near Brentwood, Calif. In addition, nesting birds were monitored through the breeding season and productivity was noted (i.e., clutch size and nest success).

Prior to release each bird is marked with a uniquely colored leg band and aluminum U.S. Geological Survey leg band. Color banding individuals allows for re-identification without the need for re-capture.

In California, the Loggerhead Shrike is a state species of special concern; meaning that it receives conservation consideration under the California Environmental Quality Act, a law that requires developers to evaluate impacts of their projects on this species. In other states and provinces of Canada, the Loggerhead Shrike is declining, considered rare or protected under more stringent environmental laws.

The Loggerhead Shrike is one of 15 species recognized by the Commission of Environmental Cooperation as a species of transboundary/ migratory concern.

Research on the Loggerhead Shrike is conducted under Institutional Animal Use and Care Permit #178 and appropriate state and federal permits. For details on this work and other ornithology projects at Site 300, contact van Hattem, 4-6795.

View previous Wildside articles by this author and others at the LLNL Wildside Series Archives at <http://www-envirinfo.llnl.gov/>.



MICHAEL G. VAN HATTEM



MICHAEL G. VAN HATTEM

MERRITT

Continued from page 1

and allow the board to present safety issues to the National Nuclear Security Administration in a timely manner.

In 1988, under the Atomic Energy Act, Congress established the Defense Nuclear Facilities Safety Board, an independent oversight organization within the Executive Branch. The board provides advice and recommendations to the Energy Secretary about DOE's defense nuclear facilities.

He also sees one of his roles as communicating potential nuclear safety issues to Lab management. The information that he provides can enhance the safety of nuclear operations for the protection of employees and the public.

Merritt joined the board in October 1992. His assignments included safety oversight for plutonium processing and stabilization at the Savannah River Site, Rocky Flats and the Hanford Site. Merritt also was responsible for the board's implementation of recommendations requiring nuclear material stabilization within the complex. Similarly, he also led a safety review of tritium processing and handling. Most recently, he served as cognizant engineer at Livermore, where he conducted facility safety reviews at the Plutonium Facility, the heavy element facility and transuranic waste processing and stor-

age facilities.

Before joining the board, Merritt served as a senior nuclear engineer at the Knolls Atomic Power Laboratory in upstate New York. Before that he was a nuclear construction engineer at the General Dynamics Corporation in Connecticut where he supported the construction of nuclear reactors for Trident submarines.

"With more than 23 years of nuclear experience on both sides of oversight, I've observed a wide range of practices at many nuclear sites and facilities," Merritt said. "I bring a perspective of how practices here at Livermore compare with other nuclear operations. This perspective allows me to identify those practices at the Lab that are likely to be successful, as well as identify practices that may need improving."

He hopes to demonstrate specifically to Lab management that independent, external safety oversight adds value and will likely improve the safety posture of nuclear operations at Livermore.

Merritt earned a master's degree in nuclear engineering from Rensselaer Polytechnic Institute and a bachelor's degree in ocean engineering from Florida Institute of Technology.

During the summer, Merritt worked to establish the site office at Livermore and transitioned from his Washington assignment with the board. Merritt and his wife Lynn now reside in Livermore.



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